NATO Link 16
Iceland Air Defense System

IADS Communications

01 August 2000

F. Montalbano
ESC/DIVJ (MITRE)

Outline

Industry Day 01-03 Aug 00

- **Inter-site communications**
- **Local area networks**
- **Wide area network**
- **GAG voice communications**
- **Communications Control and Management**
- **CI-13 Remote Rekey System**

- **Note: Diagrams of the CRC architecture are intended as a general depiction. Similar communications capabilities exist at the ISSF & RRH sites, but are not shown.**

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Inter-site Communications

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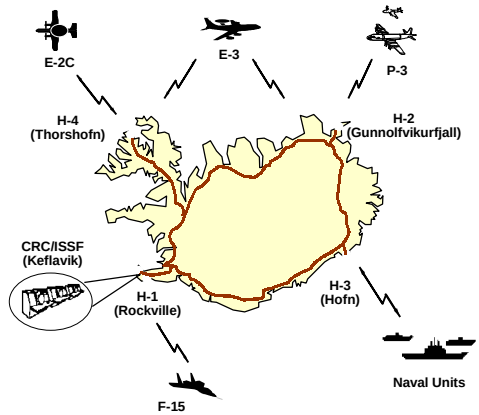
Description:

- Two separate Government-provided communications media:
  - Fiber optic network
  - PTI microwave
- Circuits available for Link 16 voice & data on each media:

CRC to H-1: Four 64 kbps channels
CRC to H-2: Four 64 kbps channels
CRC to H-3: Four 64 kbps channels
CRC to H-4: Four 64 kbps channels

- Circuits available for Link 16 data on local fiber optic media:

CRC to ISSF: Two 64 kbps channels



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Local Area Networks

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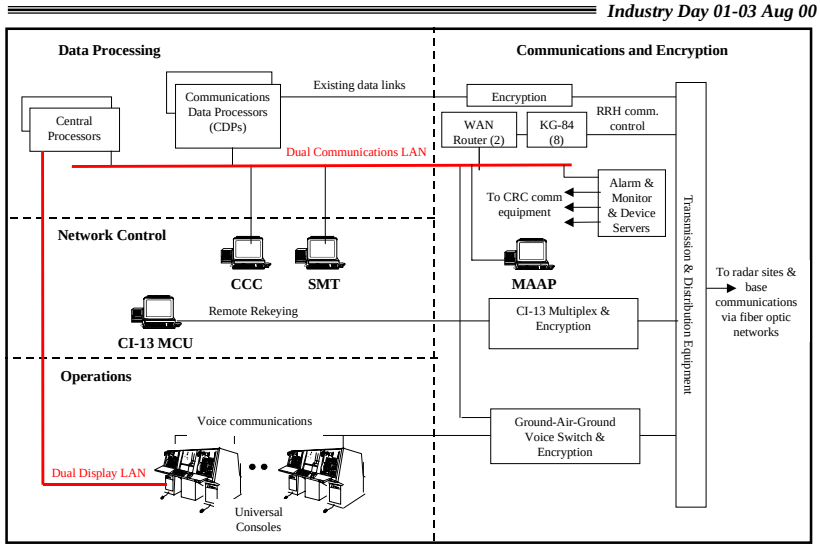

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Local Area Networks

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- **Dual communications LAN**
  - **Provides inter-processor data communications**
- **Dual display LAN**
  - **Provides display data between Central Processors and Universal Consoles**
- **LAN technology**
  - **Ethernet (IEEE 802.3) using thickwire and thin coax media**

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Wide Area Network*

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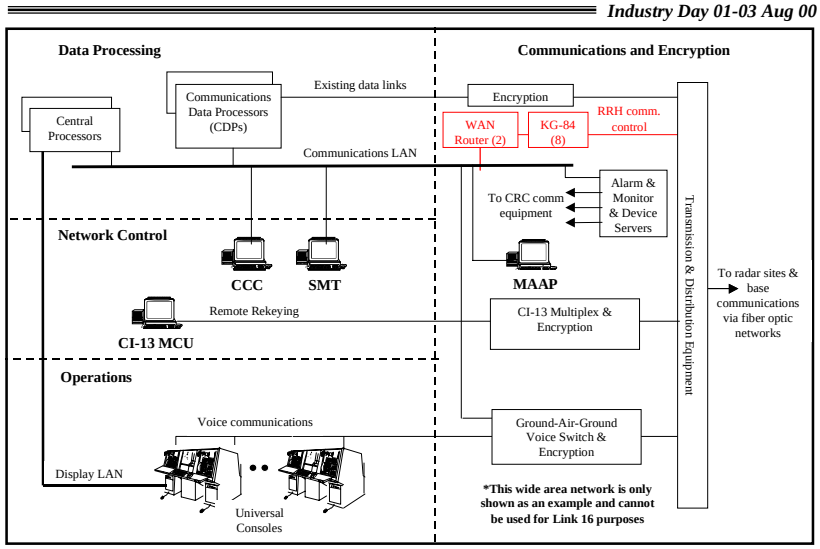

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Wide Area Network

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- **Provided for control and monitoring of RRH communications assets**
- **DEC WAN Router 250**
- **Transmission security provided by KG-84C**
- **This WAN is not available for Link 16 due to expansion and performance concerns**

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GAG Voice Communications

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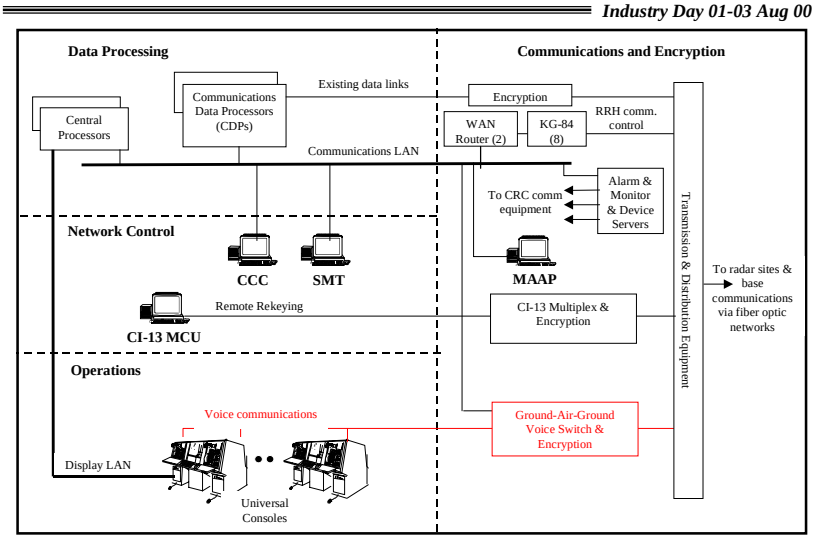

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GAG Voice Communications

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- **Current GAG voice communications is provided through UHF/VHF radios**
- **Access to voice channels is provided through the GAG Switching System (Denro model 400D) and UC Communications Panels**
- **Control and monitoring of GAG voice is performed at CCM positions (CCC, SMT, MAAPs)**

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Communications Control and Management (CCM)

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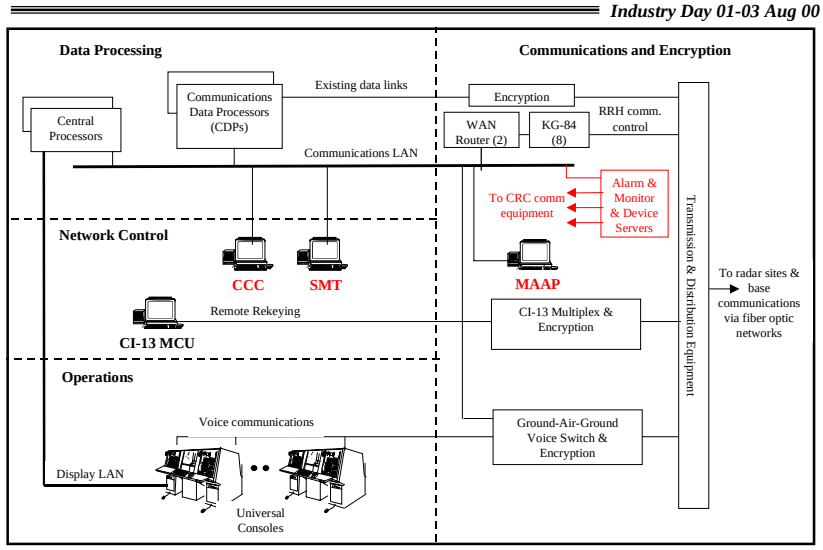

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Communications Control and Management (CCM)

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- Centralized control and management of all IADS communications assets is performed by CCM function
- Communications Control Console (CCC) manages radios, data links, connectivity, timing, and cryptos
- Switch Maintenance Terminal (SMT) manages all switching system resources
- Maintenance and Administrative Position (MAAP) provides off-line switch maintenance

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CI-13 Remote Rekey

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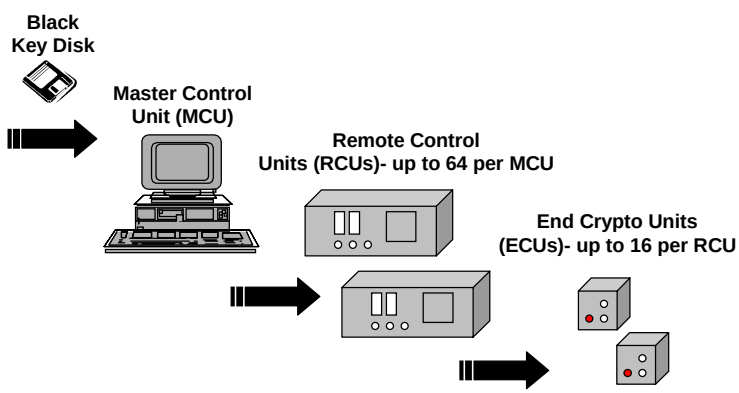

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CI-13 Remote Rekey

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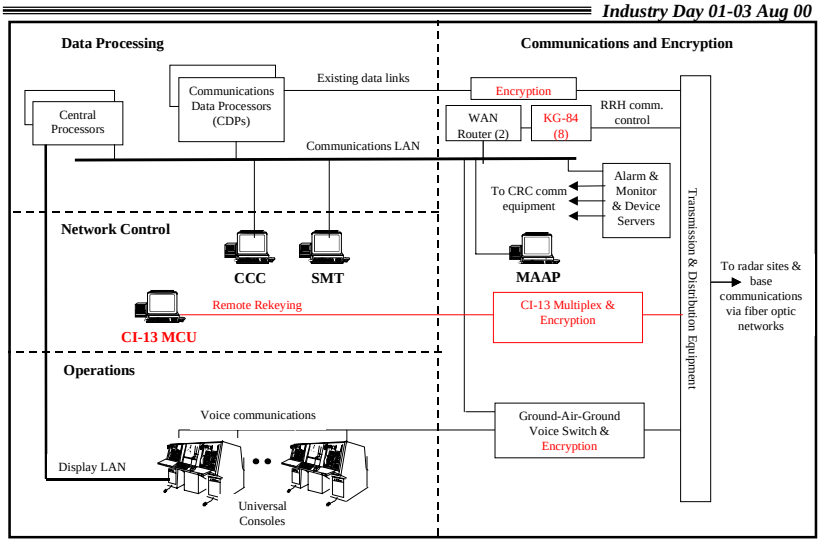

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CI-13 Remote Rekey

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- **Provides the ability to remotely fill cryptos with encryption keys**
- **Also monitors crypto status and logs events**
- **System includes:**
  - **Master Control Unit (MCU) and one backup at the CRC**
  - **Remote Control Units (RCUs) in crypto vaults at all IADS sites**

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